

Claims

1. A piezoelectric actuator, having

- a multilayer structure of piezoelectric layers and inner electrodes (2, 3)

disposed between the piezoelectric layers;

- an alternate-side lateral contacting of the inner electrodes (2, 3) via outer electrodes (4, 5), via which an electrical voltage can be delivered; wherein

- the outer electrodes (4, 5) are applied, each distributed over one side face, in the form of a network or fabric and are each contacted at least at some points to the respective inner electrodes (2, 3), and between the contact points a stretchable region comes to rest; and wherein

- the network- or fabric-like outer electrodes (4, 5) are lengthened beyond the multilayer structure of piezoelectric layers in such a way that the delivery of the electrical voltage is effected at the extensions (8, 9).

2. The piezoelectric actuator of claim 1, characterized in that

- the extensions (8, 9) are guided, electrically insulated (10), by a foot part (6) of the piezoelectric actuator (1), to which part the multilayer structure of piezoelectric layers is secured.

3. The piezoelectric actuator of claim 2, characterized in that

- the extensions (8, 9) are held in a potting composition (12), which is introduced into a recess (11) of the foot part (6).

4. The piezoelectric actuator of claim 3, characterized in that

- the potting composition (12) is surrounded by a shaped part (13).

5. The piezoelectric actuator of one of the foregoing claims, characterized in that

- the outer electrodes (4, 5) are tapered in the region of the extensions (9, 10).

6. The piezoelectric actuator of one of claims 1-4, characterized in that

- the outer electrodes (4, 5) are folded in the region of the extensions (8, 9).

7. The piezoelectric actuator of one of claims 1-4, characterized in that

- the outer electrodes (4, 5) are coiled in the region of the extensions (8, 9).

8. The piezoelectric actuator of one of the foregoing claims, characterized in that

- the network- or fabric-like outer electrodes (4, 5) comprise crossed wires (14,

15) laid at an incline of 45° .

9. The piezoelectric actuator of one of the foregoing claims, characterized in that

- the network- or fabric-like outer electrodes (4, 5) comprise crossed wires (14,

15) laid horizontally and vertically.

10. The piezoelectric actuator of one of claims 8 or 9, characterized in that

- the wires (14, 15) are contacted to one another by being copper- or tin-plated

to one another.